DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

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Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 99.28

WELDING INSPECTION REPORT

Resident Engineer: Casey, William
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-029839
Date Inspected: 15-Jul-2013

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Steward Machine Co.

OSM Arrival Time: 600
OSM Departure Time: 1630
Location: Birmingham AL

CWI Name:	Darrel Nix			**CWI Present:**	☑ Yes	☐ No		
Inspected CWI report:	☐ Yes	☐ No	☑ N/A	**Rod Oven in Use:**	☐ Yes	☐ No	☑ N/A	
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A	
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A	
Approved Drawings:	☐ Yes	☐ No	☐ N/A	**Approved WPS:**	☐ Yes	☑ No	☐ N/A	
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A	

Bridge No: 34-0006
Component: PJP Mock-Up

Summary of Items Observed:

Quality Assurance Inspector (QA) Fritz Belford was present at the times noted above in order to observe the fabrication and Quality Control (QC) functions performed by Steward Machine Company for the E2 Anchorage Saddles for the SFOBB project. The following items were observed:

Steward Machine - Plant 1:
The following was noted:
Part #S10A-a2 (M16191-D24) is mounted on CNC Milling Machine #230 beginning the machining process of its convex surface.

Part #S10B-b2 (Heat # M16190-C26) mounted on CNC Milling Machine #231:
Machinist Frank Honeycut was observed continuing with milling troughs on the plate's convex side to the required dimensions.

Part # S10B-b1 (M16190-C26) is mounted on CNC Milling Machine #219 to begin milling its convex surface to the required dimensions.

Part # S10B-d1 (M16320-D20) is mounted on CNC Milling Machine #245 continuing with machining its required radius and dimensions.

Parts S3B-f3 & S3C-f3 (M16320-D20) are being machined on CNC #177.

Parts S4B-f4 & S4C-f4 (M16320-D20) are being machined on CNC #175.

Part S4C-a4 (M16191-D24) is currently machined on CNC #225.

Hardwick Company:
The QA performed a walkthrough at the shop to verify plates on site and to observe Hardwick personnel at work pressing plate S3C-b3 (M16191-D26) into the required shape using the Cincinnati 2000 ton press. Work seemed to be progressing as expected. During the morning hours of the day plate S3C-b3 (M16191-D26) was released (not Green Tagged) from the shop to Steward Machine Plant 1 for the brace welding before sending it out to be stressed relief. No green tag release was required as agreed.

Hardie Tynes:
The QA performed a walkthrough at the shop to verify plates on site and to observe Hardy Tynes personnel at work machining plates. Observed was plate S10C-b1 (M16191-D24) mounted on CNC machine #228 being machined as required the convex side for correct thickness and trough machining. Plates S4B-a4 (M16190-c26) & S4C-b4 (M16201-C26) were noted on the shop floor inline for the machining process.

Steward Machine - Plant 2:
PJP Mock Up Weld Soundness Test:
The QA inspector was asked to witness the welding of the PJP mock up of the groove weld connecting the saddle ducts. The joint configurations had been changed and a mock-up was required by the Engineers utilizing the relevant Welding Procedure Specification (WPS) to verify weld details such as weld size, weld penetration, and to ensure no blow through would occur with the WPS used. The mock-up was welded by welder David Hyche (#37) utilizing weld filler metal designated as E70T-1 in accordance with the tables set forth in AWS D1.5. After preheating the assembly to 150 degrees Fahrenheit the welder began welding the root pass with the QC inspector observing and documenting the electrical parameters as 250 amps/29 volts. After QC Inspector Darrel Nix inspected the root pass he informed the welder to continue. After completing the welding of the mock-up, it was allowed to cool before three (3) Macroetch specimens were cut from it. Inspection of the Macroetch confirmed weld size, weld soundness and were acceptable as per AWS D1.5 section 5.19.3 with no blow through noted. Measurements were taken of the PJP welds and all sample penetration were from 14.5mm to 15mm deep and 19mm to 20mm wide. Mock up plate dimensions were 18” x 15” x 0.75”T with a groove angle of 30 degrees.

WELDING INSPECTION REPORT

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Summary of Conversations:

As required for scope of work.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Gary Thomas (916) 764-6027, who represents the Office of Structural Materials for your project.

Inspected By:	Belford,Fritz	Quality Assurance Inspector
Reviewed By:	Foerder,Mike	QA Reviewer